Claim 57 (previously presented) The method of claim 53, whereby a decrease in the binding between the ARE and the polypeptide identifies a compound that inhibits an activity of TTP or a TTP-like polypeptide.

Claim 58 (previously presented) The method of claim 57, wherein the method identifies a compound that inhibits degradation of an mRNA molecule comprising an ARE.

Claim 59 (previously presented) The method of claim. 55, wherein the mRNA molecule encodes granulocyte-macrophage stimulating factor (GM-CSF) or IL-3.

Claim 60 (previously presented) The method of claim 53, further comprising contacting the sample with an inhibitor of mRNA transcription prior to detecting or measuring the binding between the ARE and the polypeptide.

Claim 61 (previously presented) The method of claim 53, wherein the ARE is a class II ARE.

Claims 62-63 (canceled)

Claims 64-69 (canceled)

Claim 70 (canceled)

Claim 71 (previously presented) The method of claim 58, wherein the mRNA molecule encodes TNF-α.

Claim 72 (previously presented) The method of claim 58, wherein the mRNA molecule encodes GM-CSF or IL-3.

Remarks

Claims 39-63 and 70-72 are pending. Claims 39-52, 62, 63, and 70 have been withdrawn from consideration as being drawn to a non-elected invention and are canceled herein.

Finality of Office Action

Applicants request that the finality of the present Office action be removed based on the new grounds of rejection introduced therein. The Examiner newly rejected claims 53-61, 71 and 72 under 35 U.S.C. § 101 for an alleged lack of utility, arguing that in order for the claimed method to have utility, the method must give rise to a product that in turn has utility. The Examiner posits that "the specification does not teach where any compound has been identified by the claimed method, much less that the product so identified has in fact been found to satisfy the utility requirements, either directly or indirectly."

The Examiner stated that Applicants' amendment necessitated the new ground(s) of rejection in this Office action. The amendment of independent claim 53 comprised the replacement of abbreviations such as "TTP" and "ARE" with their respective full names and did comprise the rephrasing of the steps in the provided method to make the claim clearer. However, the amendments to the claims did not alter the scope or meaning of the claim in such a way as to necessitate the new grounds of rejection. The reasons provided to support the new rejection could have been argued in the first Office action on the merits prior to the Applicants' amendments. In fact, the Examiner used the same argument in the first Office action on the merits dated 10/28/2004, i.e., that "none of the examples is drawn to the claimed method," to support a 35 U.S.C. § 112, first paragraph rejection of claims 53-61. Thus, as the alleged basis for the new rejection was present prior to the Applicants' amendments and were therefore not necessitated thereby, the finality of the present Office action is improper.

Election/Restriction

Claims 39-52, 62, 63 and 70 were withdrawn from consideration as being directed to non-elected inventions. These claims are canceled herein.

Specification

The Examiner objects to the paragraph "Incorporated by Reference" as omnibus language that allegedly fails to specify what specific information the Applicants seek to incorporate by reference and similarly fails to teach with detailed particularity just where that specific information is to be found in each of the cited documents. The Examiner has "urged" the

Applicants to "consider" removing such language. Applicants acknowledge this objection to the specification. However, Applicants do not rely on this language, and it is not clear that the Examiner is requiring Applicants to amend the specification, or what the legal basis for such a requirement might be. Therefore, Applicants have not taken specific action in this regard. Upon clarification from the Examiner of the legal requirement for removal, Applicants will remove the omnibus incorporation by reference language.

Rejection Under 35 U.S.C. § 112, first paragraph

Claims 53-61, 71 and 72 were rejected under 35 U.S.C. § 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the art that the inventor had possession of the claimed invention. The Examiner states that "[w]hile the specification has been found to comprise several examples, no example, or any other supporting disclosure, has been found to describe the claimed method in such full, clear, and concise language so as to reasonably suggest that applicant was in possession of the invention at the time of filing." The Applicant does not believe the Examiner has established a *prima facie* case for lack of written description.

A. The Issues

Applicants submit that the present rejection fails to take into account the proper understanding of what needs to be described in view of what is claimed, the proper understanding of the law of the written description requirement as it applies to the claimed method, and a proper application of that law to the claimed method. Applicants assert that (1) the specification *does* provide an adequate written description of the steps to be used in the claimed method according to the legal standard for the written description of a screening method and (2) the specification need not provide a written description of a compound *identified by* the claimed method because it is the *method* that needs to be described. A compound *identified by* the claimed method is involved only in the *using* of the claimed method (which is what the Examiner focuses on in the present enablement requirement) and not the method itself (which is all that need be described for satisfaction of the written description requirement).

B. The Legal Standard

The application must contain a "written description" of the claimed invention. 35 U.S.C. § 112, first paragraph. The essential goal of this written description requirement is to clearly convey the information that Applicants have invented the subject matter which is claimed. *See In re* Barker, 559 F.2d 588, 592 n.4, 194 USPQ 470, 473 n.4 (CCPA 1977). Another objective is to put the public in possession of what the Applicants claims as the invention. *See* The Regents of the University of California v. Eli Lilly and Co., 119 F.3d 1559, 1566; 43 USPQ2d 1398, 1404 (Fed. Cir. 1997) (hereafter, "*Lilly*").

A Claim to a Method Does Not Require Description of the Structure of Compounds Identified by the Method

The first paragraph of 35 U.S.C. § 112 requires "a written description of the *invention*." The invention is what is claimed. Claims can be drawn to various types of inventions, including, for example, claims to compositions *per se* and claims to methods. A composition is a physical object, which has a physical structure. A method is a process made up of one or more process steps (that is, one or more acts to be carried out). Thus, the written description of a composition invention typically requires at least some description of the structure of the composition, and the written description of a method invention requires description of the acts to be performed. This distinction is supported by the Guidelines for Examination of Patent Applications Under 35 U.S.C. 112, ¶1 "Written Description" Requirement, 66 Fed. Reg. 1,099 (Jan. 5, 2001) (hereafter, "Written Description Guidelines"), in which the first step in the analysis of compliance with the written description requirement is to "[d]etermine whether the application as filed describes the complete structure (*or acts of a process*) of the claimed invention as a whole." Written Description Guidelines at 1106 (emphasis added). Nothing in the statute or the caselaw requires a written description of anything other than the *claimed invention* for compliance with the written description requirement. Thus, only the process steps of a claimed method need be described in order to satisfy the written description requirement for a method.

The Requirement That the Manner and Process of Making and Using the Claimed Invention Be Described Is Not Part of the Written Description Requirement

The courts have clearly established that the first paragraph of 35 U.S.C. § 112 includes, *inter alia*, two separate requirements: (1) an enablement requirement based on the statutory language that the application describe "the manner and process of making and using [the invention], in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same," and (2) a written description requirement based on the statutory language "[t]he specification shall contain a written description of the invention" (the third requirement of the first paragraph of 35 U.S.C. § 112, the "best mode" requirement, is not relevant here). The separate status of the make and use clause and the written description clause was at the heart of the recognition of the separate written description requirement. *See* Vas-Cath v. Mahurkar, 935 F.2d 1555, 1560-61 (Fed. Cir. 1991); Enzo Biochem v. Gen-Probe, 285 F.3d 1013, 1018, 1021 (Fed. Cir. 2002) (hereafter "*Enzo I*").

The separate status of the written description requirement and the enablement requirement (as embodied by the different clauses of 35 U.S.C. § 112, first paragraph, discussed above) was also discussed in *In re Barker*, 559 F.2d 588, 594 (CCPA 1977) (Rich, J., concurring). Judge Rich noted that long before section 112 was written, and before claims became the standard means of setting fourth the metes and bounds of inventions, the original patent laws included language almost identical to the written description clause and enablement clause of 35 U.S.C. § 112, first paragraph. *See id.* Before the use of claims became common, it was the description of the invention in the specification in general that defined what the Applicants considered to be his invention. *See id.* Thus, the written description clause in the early patent laws required a definition of the invention in the specification to serve the same purpose as claims do under current law. The written description clause was retained when section 112 was written despite the fact that claims had long since taken on the function of defining the invention. *See id.* For this reason, Judge Rich argued in *Barker* that, until the revival of the written description requirement in its current form, the first clause of 35 U.S.C. § 112, first paragraph, was "superfluous words" that had been retained in section 112 when it was written because "they were familiar and had many times been construed." *Id.* By this, and relevant here, Judge Rich meant in part that the words were superfluous to the enablement

requirement, which had remained a consistent requirement in patent applications from the earliest patent laws. Thus, a description of the manner and process of making and using a claimed invention is an aspect of the enablement requirement but not of the written description requirement.

C. The Examiner's Arguments Are Based on an Incorrect Legal Standard

The Examiner has asserted that the specification lacks adequate written description since it does not "teach where any compound has been discovered/ identified as a result of practicing the claimed method." As discussed above, the first paragraph of 35 U.S.C. § 112 requires "a written description of the *invention*." Thus, written description of the claimed method requires description only of the act(s) to be performed because the act(s) to be performed in the claimed method is what the invention is. Nothing in the statute or the caselaw requires a written description of anything other than the *claimed invention* for compliance with the written description requirement. Whether those of skill in the art can succeed in carrying out the acts of the method and achieve the claimed results is solely a question of enablement. This is an *effect* of the method, not a step of the method. Obtaining this effect is solely an issue of enablement, not written description. The effect is not a step or act required to perform the method, it is only a result that those of skill in the art must be able to *obtain* (without the need for undue experimentation) *when* they practice the claimed method (that is, *when they perform* the steps of the method). Those of skill in the art must practice the method so as to obtain the claimed effect. This is a feature of the *use* of the claimed method, not of the method step *per se*, and as such, is only a feature of how to use the claimed method. Because how to use the claimed method is not a part of the written description requirement, such use is not a proper area of inquiry in assessing written description of the claimed method.

D. Written Description Requirement for Screening Claim

Applicants do not believe that the Examiner has fully considered the Applicants' arguments regarding the relevance of *University of Rochester v. G.D. Searle & Co.* 68 USPQ2D 1424 (WDNY 2003) (hereafter *Rochester*). In *Rochester*, the plaintiffs had discovered that the inducible form of cyclooxygenase, COX-2, was relevant to inflammatory disease. The plaintiffs had both a claim to (1) a screening method for identifying, i.e., screening for, a COX-2 inhibitor

and (2) a method of using a COX-2 inhibitor to treat inflammatory disease. However, at the time the application was filed, the plaintiffs had not actually identified a COX-2 inhibitor using the provided screening method.

The *Rochester* court noted that the compositions that will perform the claimed method of treating inflammatory disease were not actually disclosed, nor was there any evidence that such a composition was known at the time of filing. Based on this, the court decided that the inventor had failed to sufficiently describe the method of using the compound such that one of ordinary skill in the art would recognize that they actually possessed the method of using the compound at the time of filing. In contrast the *Rochester* court found that the screening claims had adequate written description.

Unlike the *Rochester* case, the Applicants are not claiming a method of using a compound. Rather, like the *Rochester* case, the Applicants are claiming a method of identifying, i.e., screening for, a compound using fully described steps that are based on the clearly described interaction between a TTP zinc finger domain and an ARE. In fact, the United States Court Of Appeals For The Federal Circuit found that the *Rochester* specification did in fact comply with the written description requirement for claims to assay methods, stating that "[t]he only claims that appear to be supported by the specification are claims to assay methods, but those claims were already issued in the '479 patent." *Id* at 928. The Court came to this conclusion even in the absence of the actual practice of a step of contacting the assay components with any putative COX-2 inhibitor, or the actual identification of any COX-2 inhibitor.

Thus, according to the reasoning in *Rochester*, the written description requirement for a screening method is satisfied by a full, clear, and concise description of a biological mechanism coupled with a description of the steps necessary to determine if a candidate composition modulates the properties of said biological mechanism. The present screening method claims are based on the fully, clearly and concisely described biological mechanism of the interaction between a TTP zinc finger domain and an ARE. Thus, the legal requirements, when properly applied to the present facts, support a finding that the present screening method claims satisfy the written description requirement of 35 U.S.C. 112, first paragraph.

E. The Claimed Method is Adequately Described by Description of the Method Steps

For a method claim, the specification need only provide a written description of the method *steps* in order to comply with the written description requirement. The steps of the present methods include (1) contacting a sample containing TTP and ARE with a compound, and (2) detecting the binding between ARE and TTP. Applicants have described the critical materials for the claimed method (ARE and TTP) and the steps to be used. Those of skill in the art would recognize the claimed method and its steps and accept that Applicants were in possession of the claimed method. As to the first step, the skilled person would know that how a compound is delivered (e.g., diluent, pH, concentration, or duration of contact) to an assay system (e.g., ARE + TTP) is dependent upon both the nature of the candidate compound and of the assay being used.

As to the compound, the Applicants disclose in the specification (page 31, line 13 to page 32, line 8) examples of compounds that can be screened using the provided screening method. However, it should be recognized that by its very nature a screening assay anticipates the realm of compounds that cannot be predicted, before their use in the assay, to have any function in the assay. The *Rochester* court essentially validated this view when it stated that the assay claims were valid in the absence of any specific compound tested in the assay.

As to the second step, the Applicants disclose in the specification (page 30-31) cell-based and cell-free assays for determining whether a compound interferes with TTP (or related protein) binding to AREs or with mRNA stability. The Applicants again direct the Office to page 30, line 8, wherein the Applicants disclose the following:

> A variety of assay methods can be used to determine whether a given compound interferes with TTP or related protein binding to the GM-CSF ARE and the breakdown of GM-CSF mRNA. These would include cell-based experiments, such as the transfection studies in 293 cells cited in Example 3; it can be seen that addition of cell-permeable compounds to the cells that inhibited the TTP-mRNA interaction would result in inhibition of TTP's ability to deadenylate and destroy the mRNA. Such assays could use a variety of more convenient readouts, e.g. luminescent proteins, human growth hormone, chloramphenicol acetyltransferase, beta-galactosidase, etc. Similar cell based studies could also be performed in yeast, where there is considerable precedent for high-throughput screening assays for protein interactions with DNA, RNA and

> other proteins. Cell-free assays would probably be the most convenient to set up; these would involve extracts from cells expressing TTP or its related proteins (e.g., ERF1, ERF2, etc.) or its active fragments (e.g., the double zinc finger domain), and testing their ability to bind to purified, labeled GM-CSF ARE, assayed by either crosslinking or gel-shift assays as described in the Examples. More conveniently still, these assays could use purified TTP or its active fragments, or purifed members of the TTP-related protein class or their active fragments, or fusion proteins expressing TTP or its related proteins or their fragments. All have been shown to be active at binding and crosslinking to the TNFα ARE. These would use variable lengths of sequence of the GM-CSF ARE – e.g., a probe that corresponds to bases 3390 – 3467 of Genbank accession number X03020, but the experiments with the TNF ARE have shown that this could probably be shortened to a "core" ARE of about 23 bases (bases 1309 to 1332 of Genbank Accession number X02611and corresponding bases for GM-CSF). (emphasis added)

The Applicants have disclosed that a "variety of assay methods" that can be used in the second step of the provided methods. However, the Examiner has noted the use of phrases such as "could be" and "would be" in the description of the assay methods and has subsequently argued that the above description of the provided method comprises "forward-looking statements [that] do not constitute the full, clear, concise, and exact written description required under 35 USC 112, first paragraph."

While phrases such as "could be" and "would be", when taken in isolation, *could be* interpreted as conditional and expectational, the above statements are prefaced by the affirmative statement that "[a] variety of assay methods *can* be used to determine whether a given compound interferes with TTP or related protein binding to the GM-CSF ARE and the breakdown of GM-CSF mRNA" (emphasis added). The subsequent use of "could" and "would" is stylistic based on the alternative nature of the methods being described. The fact that many such assays for measuring the binding of a protein to a nucleic acid were well known in the art, and that alternative approaches that can be used in said step of the provided method were disclosed, does not make the description less clear or concise. Nor is the routine application of these known methods to the present method steps "forward looking."

Further, the statement that "[c]ell-free assays would probably be the most convenient to set up,"is affirmative and concise in its treatment of the choice of this art-recognized method as a

mere matter of convenience. This statement is an example of how routine in the art the assay methods were, in that the artisan is able to consider convenience in the practice of the method.

While the Applicant contends that the method need not be actually practiced in an exemplary protocol to satisfy the written description requirement, the only step of the method that was not explicitly exemplified was the contacting step. For example, an analysis of RNA-protein complexes by SDS-PAGE electrophoretic mobility shift assay (EMSA) is provided on pages 65-68 of the specification. This section provides examples of TNFα 3'UTR RNA probes comprising an ARE. This section further provides a protocol for incubating a sample containing TTP protein and the ARE together followed by gel electrophoresis for detecting the binding between the ARE and the TTP (i.e., the formation of RNA-protein complexes). The only step of the provided method not exemplified therein was the contacting step, wherein a candidate compound is added to either the cytosolic extract or the RNA probe prior to their co-incubation. As argued above, this step is both variable and routine.

Furthermore, as the choice of compound to apply to the screening method is variable, exemplification of the method, wherein a specific compound is identified and described, could not show definitively that any other compound would likewise be identified. Thus, if, *arguendo*, exemplification were required for written description, then a provided working example could only be a description of the use of the method to identify *that* compound. Although this appears to be an implication of the present rejection, applicants are confident that this is not how the Patent Office intends its analysis of written description for a screening method to be applied.

F. Rule 132 Declaration

The satisfaction of the written description requirement can be met by showing that one of skill would have considered Applicants to be in possession of the claimed invention at the time the application was filed. Thus, objective evidence of what the skilled person believes about the specific facts of a case should, in the absence of specific contrary evidence, control the outcome of analysis. An example of this kind of controlling evidence is a Declaration of a skilled person in the field regarding what description would be required for the skilled person to consider Applicants as being in possession of the invention. Applicants submit just such a Declaration

Under 37 C.F.R. § 1.132 by one of skill in the art attesting that at the time the application was filed the instant description showed possession of what is claimed.

G. Conclusion

As discussed above, the steps to be used in the presently claimed method are adequately described according to the standards to be applied to a screening method, and such steps would have been viewed by the skilled person as being in Applicants' possession at the time of filing. Therefore, the lack of working example of the claimed method does not establish or support a finding that the claimed method fails to comply with the written description requirement. Thus, the Applicants believe that the present rejection fails to establish a *prima facie* case for lack of written description and respectfully requests that the rejection be withdrawn.

Rejection Under 35 U.S.C. § 101

Claims 53-61, 71 and 72 were rejected under 35 U.S.C. § 101 as allegedly not supported by either a credible asserted utility or a well-established utility. The Examiner notes that "[i]n order for the claimed method to have utility, the method must give rise to a product that in turn has utility, or has been shown to give rise to a product or method that in turn has utility."

A. Utility Examination Guidelines

The Utility Examination Guidelines ("Utility Guidelines") create a framework for determining whether claimed subject matter complies with 35 U.S.C. § 101. Utility Examination Guidelines, Federal Register 66(4):1092-9 (January 5, 2001). The Utility Guidelines instruct the PTO to refrain from rejecting the claims under 35 U.S.C. § 101 if the claimed subject matter possesses a "well established utility" because "a person of ordinary skill in the art would immediately appreciate why the invention is useful based on the characteristics of the invention . . . and the utility is specific, substantial, and credible." Utility Guidelines at 1098. If no "well established utility" exists then the PTO should determine if the Applicants have "asserted . . . any specific and substantial utility that is credible." Utility Guidelines at 1098. Again the Utility Guidelines instruct the PTO to refrain from rejecting the claims under 35 U.S.C. § 101 if the Applicants have asserted a specific utility which is not a "throw away [utility] . . . such as the use of a complex invention as landfill." Utility Guidelines at 1098. The Utility Guidelines instruct

the PTO to assess credibility "from the perspective of the one of ordinary skill in view of the disclosure and any other evidence of record . . . [and the PTO] must treat as true a statement of fact made by an applicant in relation to the asserted utility, unless countervailing evidence can be provided that shows that one of ordinary skill in the art would have a legitimate basis to doubt the credibility." Utility Guidelines at 1098-9.

B. The Legal Standard

The Supreme Court held a claim to a method for producing a chemical compound where future research would have to be performed to determine a use for the compound lacked utility. *Brenner, Comr. Pats. V. Manson*, 148 U.S.P.Q. 689, 696 (1966). In so finding the Court focused on whether more research would be needed *to ascertain whether* the compound had *any utility. Id.* at 695. The Court emphasized that the patent system relates to "the world of commerce rather than to the realm of philosophy" to support why merely using a claimed compound or process to determine if the claimed compound or process had any use fails to meet the utility requirement. *Id.* at 696 (*citing In re Ruschig*, 343 F.2d 965, 970 (C.C.P.A. 1965).

The PTO recognized what the *Brenner* Court meant when it provided the guidelines outlined in The Manual of Patent Examining Procedure ("MPEP") regarding using a claimed process or compound in a research setting. The MPEP states:

> "Many research tools such as gas chromatographs, screening assays, and nucleotide sequencing techniques have a clear, specific and unquestionable utility (e.g., they are useful in analyzing compounds). An assessment that focuses on whether an invention is useful only in a research setting thus does not address whether the specific invention is in fact "useful" in a patent sense. Instead, Office personnel must distinguish between inventions that have a specifically identified utility and inventions whose specific utility requires further research to identify or reasonably confirm." (emphasis added)

Manual of Patent Examining Procedure, Edition 8 (E8), Latest Revision May, 2004 at § 2107.01 (*relying on Brenner, Comr. Pats. V. Manson*, 148 U.S.P.Q. 689 (1966)).

C. Applicants have asserted a utility meeting the requirements of the Guidelines

Applicants clearly provide a specific and substantial utility. The Examiner argues that "the specification does not teach where any compound has been identified by the claimed method, much less that the product so identified has in fact been found to satisfy the utility requirement, either directly or indirectly." This is not a proper statement of the requirement for providing a utility for a screening method. It is the method itself, i.e., a method of finding a compound that can or may interfere with binding between TTP and ARE, for which utility must be shown. There is no requirement that a compound be identified for a method of looking for a compound that can or may impact a known disease pathway to have a real world utility. Those of skill in the art will recognize that a method of finding a compound that interferes in the disclosed pathway is valuable and has utility.

Further, as the choice of compound to apply to the screening method is variable, exemplification of the method, wherein a specific compound is identified and described, would not and could not be evidence that any other compound existed. Thus, the implication that the utility of a screening method depends on the actual identification of a useful compound, does not make sense. Rather it is the capability of the method to identify such a compound, should one exist, that is the basis for utility of a screening method. Applicants establish this capability through the teaching of the mechanism of TTP and ARE interaction.

Furthermore, as stated by the Examiner, it is not required that the Applicants demonstrate a utility, only that the Applicants assert a credible utility. Thus, Applicants need only provide a credible utility for the method itself. This utility can be based on the importance of the mechanism on which the method is based and the credible real world uses for compounds that might be identified by the method. The Applicants direct the Examiner's attention to page 3, lines 12-21 of the specification, wherein the Applicants disclose:

> "In a first aspect, the invention features a method of treating granulocytopenia in a subject, including administering to the subject an agent that inhibits the degradation of GM-CSF mRNA, thereby treating granulocytopenia in the subject. In various embodiments of the first aspect of the invention, the granulocytopenia is relative or absolute; the degradation of GM-CSF mRNA is inhibited by inhibiting the mRNA degradative activity of TTP; or the agent that

> inhibits the degradative activity of TTP is a competitor of TTP. For example, the competitor can compete with TTP for binding on the AU-rich element (ARE) of GM-CSF mRNA; or the competitor can compete with TTP for binding on an mRNA degradative enzyme."

Thus, the utility of the compound identified by the provided method is explicitly asserted, and this is sufficient evidence of the utility of a method that can be used to identify that compound. The attention of the Examiner is further directed to page 20, lines 12-29, wherein the Applicants disclosed:

> "Increased levels of GM-CSF are provided by inhibiting the degradation of GM-CSF mRNA. This is accomplished by inhibiting the mRNA degradative activity of certain proteins identified herein as having GM-CSF mRNA degradative activity.
>
> Herein it is shown that tristetraprolin (TTP) stimulates degradation of GM-CSF mRNA (see, e.g., Examples 1 and 4). Without being bound by theory, the mRNA degradative activity of TTP is likely to be a function of its ability to recruit a deadenylating enzyme into proximity with the GM-CSF mRNA. Thus, an agent that inhibits the degradation of GM-CSF mRNA can be an agent that inhibits the mRNA degradative activity of TTP, for example, a competitor of TTP. A competitor of TTP can compete with TTP for binding to the AU-rich element (ARE) of GM-CSF mRNA, thereby partially or completely inhibiting the binding of TTP (or a TTP-like protein) to the AU-rich element. Alternatively, a competitor of TTP can compete with TTP for binding to an mRNA degradative enzyme (e.g., a deadenylase, exonuclease (e.g., a 3' exonuclease) or endonuclease) that plays a role in TTP-induced GM-CSF mRNA degradation. Examples of the agents that inhibit TTP induced mRNA degradation include certain mutant TTP molecules described herein. Other agents, such as chelators of zinc, can also inhibit TTP's mRNA degradative activity."

Thus, the showing that (1) granulocytopenia can be treated by increasing levels of GM-CSF, and (2) TTP binding to the ARE of GM-CSF mRNA stimulates degradation, is sufficient credible evidence that a compound that inhibits the binding of TTP to an ARE could be useful in treating granulocytopenia. Therefore, a method that can be used to identify compounds that inhibit the binding of TTP to an ARE must also be useful. For example, data are provided on pages 61-106 of the specification, such as for example page 100, lines 9-19, demonstrating the degradation of the TNF-α mRNA ARE by TTP. Further, the data provided on page 38, lines 14-22, demonstrating the accumulation, prolonged expression, and lack of the deadenylated form of

GM-CSF mRNA in TTP-deficient cells in response to stimulus, establish that GM-CSF mRNA is degraded by TTP. These data, in view of the known role of GM-CSF in granulocytopenia (Nemunaitis J, Drugs. 1997 Nov;54(5):709-29, attached), provide a clear and credible indication that an inhibitor of GM-CSF mRNA degradation could be identified for use in treating granulocytopenia.

The satisfaction of the utility requirement can be met by showing that a person of ordinary skill in the art would appreciate that the asserted utility is specific, substantial, and credible. The Examiner has cited no specific basis to contradict Applicants' assertion of utility. Thus, it should be accepted as sufficient. Furthermore, the attached Declaration Under 37 C.F.R. § 1.132 by one of skill in the art at the time the application was filed attests that the claimed method is a scientifically credible utility based on the data presented in the specification. Because this rejection is believed to be overcome, its withdrawal is respectfully requested.

Rejection Under 35 U.S.C. § 112, first paragraph

Claims 53-61, 71 and 72 were rejected under 35 U.S.C. § 112, first paragraph as allegedly not supported by either a credible asserted utility or a well-established utility, wherein the Examiner states that "one skilled in the art clearly would not know how to use the claimed invention."

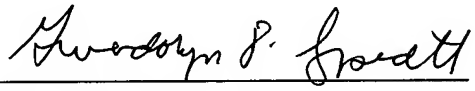
The question of whether an invention can be *used* by those of ordinary skill in the art within the meaning of 35 U.S.C. § 112, first paragraph, is related to the utility of the invention. Although the "utility" of an invention by that term is commonly assessed under 35 U.S.C. § 101, it is well established that the standard for assessing "use" of an invention under 35 U.S.C. § 112, first paragraph, is the same as the standard for assessing "utility" of an invention under 35 U.S.C. § 101. *See Ex parte* Maas, 14 USPQ2d 1762, 9 USPQ2d 1746, 1747 (Bd. Pat. App. & Int'f 1987). The *Maas* Board stated, "the issue under 35 U.S.C. § 112 relating to an enabling disclosure is subsumed within the issue under 35 U.S.C. § 101 relating to patentable utility." *Maas* at 1763. Any analysis of a claim under 35 U.S.C. § 112, first paragraph, relating to the use of the claimed subject matter, need only meet the standards of the utility requirement of 35 U.S.C. § 101 because if the claimed subject matter meets the utility requirement it is presumed to

meet the enablement requirement. Because Applicants establish utility under 35 U.S.C. § 101, the use requirement of § 112, first paragraph is also established.

Payment Form PTO-2038 authorizing payment in the amount of $120.00 representing the fee under 37 C.F.R. § 1.17(a)(1) for a Request for One Month Extension of Time is enclosed. This amount is believed to be correct; however, the Commissioner is hereby authorized to charge any additional fees which may be required, or credit any overpayment to Deposit Account No. 14-0629.

Respectfully submitted,

NEEDLE & ROSENBERG, P.C.



Gwendolyn D. Spratt
Registration No. 36,016

NEEDLE & ROSENBERG, P.C.
Customer Number 36339
(678) 420-9300
(678) 420-9301 (fax)